SOCIO-DEMOGRAPHICS AND MILITARY RECRUITING: THE ROLE OF VETERANS

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Who serves in the military? Representation has always been an important public policy issue. From the recruiting perspective, the services want to know where the market is and where to place resources. They also want to know how the market is evolving to plan for the future.

Military recruiting is in the midst of several "sea changes". The most notable of these has been the decline in the numbers of new recruits in recent years. Enlisted recruiting is now stabilizing at around 200,000 recruits annually, down from 278,000 in 1989, the last year prior to the post-cold war draw down.

However, the decline in numbers recruited was accompanied by an increasing focus on high quality recruits, where high quality is defined as high school graduates with test scores at the 50th percentile or above on the Armed Forces Qualifying Test. Rather than reduce recruiting resources, the services have increased quality standards. High quality enlistments today constitute over two-thirds of all recruits (Office of the Assistant Secretary of Defense, 1995).

The Prime Market

The legal requirements for military service are not particularly restrictive. Enlisted recruits must be between 17 and 35, score above the 9th percentile on the ASVAB if they are high school graduates and above the 30th percentile if they are dropouts. These standards define a potential enlistment pool of 69 million males and females for each year of age. Using these requirements, it does not seem to be too difficult to find one young man and one woman from a pool of 350.

The size of the theoretical pool does not, however, adequately describe the recruiting situation. Military service continues to be for the young. Over 94% of recent recruits were under 25 years of age, and 82% were 21 or younger. Also, the military is focused on recruits who are "high quality" (high school graduates who perform well on the entrance examination) which greatly reduces the size of the pool for recruiting. Thus, the active market for recruiting is actually only a small part of the total 17-21 cohort.

Table 1 shows the breakdown of the population that is actually in the prime market. In 1990 there were over 9 million young men aged 17-21. However, there were only about 6.3 million high school graduates in this age range (National Center for Education Statistics, 1995). Over 57% of these high school graduates went on to college national Center for Education Statistics, 1995), making them unlikely to serve in the military as enlisted members. Less than 5% of enlisted recruits have some college (Office of the Assistant Secretary of Defense, 1 995).

Of the 2.7 million graduates in the work force, about 57% are projected to score above the 50th percentile (Office of the Assistant Secretary of Defense, 1982), resulting in just over 1.5 million high quality males entering the work force. Other studies have found that 29% of otherwise eligible young men are likely to be unqualified either medically or morally (Thomas & Gorman, 1991). Only 11% of the total eligible youth market is projected to be high quality and eligible for military service. Similar data for the female market found only about 10% project to be high quality and eligible.

Table 1

The 1990 Recruitable Population

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	MALE (thousands)	FEMALE (thousands)
17-21 population	9,670	9,310
High School Degree Graduate	6,320	6,593
Work Force	2,697	2,765
Category I-IIIA	1,532	1,377
Medically & Morally Qualified	1,088	971

One way to look at the difficulty of recruiting is to track a year group's experience through the entire five years that it is in the prime market. For example, the class of 1987 high school graduates produced 231,000 males and 193,000 females who were high quality, enlistment eligible and did not go to college. Over the next 5 years the military recruited 111,855 males and 19,504 women from this class: 48% of the young men and 9% of the young women. This situation was not unusual. Over 1956-1990 the military recruited over five years 52% of each cohort of high quality work force males, and 9% of the corresponding female population.

Enlistment Rates,

Historically, this prime market is a supply constrained group. There is competition not only between services for these people, but also from colleges and the work force. Those with no high school diploma or who score below the 50th percentile on the AFQT are generally considered easier to recruit, so they do not need to be sought out. Recruiters target their marketing effort on areas that have a high concentration of prime market youths. Therefore, to investigate enlistment behavior we examined the high quality enlistment rate at the county level.

Previous research on enlistments has used either national trends or large geographic regions such as recruiting districts. By focusing on counties we can examine a rich set of socio-demographic factors which are not so readily identifiable in more aggregate models.

For enlistments we used high quality enlistments from FY88-FY92. This time period is long enough to provide an assessment of enlistment behavior that was not affected by short term fluctuations in enlistment behavior due to management policies or short term economic fluctuations. By focusing on high quality enlistments we eliminate most of the effects of downsizing. While total enlistments declined 26% from FY88 to FY92, high quality enlistments only declined 10%

We examined two enlistment rates: male and female high quality enlistments expressed as a percentage of the 17-21 year old population. We divide by the 17-21 year old population to create a rate, because over 80% of new enlistments are recruited from this age group

When you examine the fifty largest counties in the U.S., you see some interesting variations in enlistment rates. Some areas of the country have consistently high or low rates. For example, in Hillsborough County, Florida 2.3% of the male youth population enlisted each year as high quality male recruits. Four of the top 6 counties were found in Florida. In contrast, the county with the lowest enlistment rate was New York, NY, where less than 0.5% of the population enlisted. Seven of the lowest 10 counties were found in the greater New York City area. Florida also has four of the top female enlistment counties, and the greater New York area has seven of the lowest enlistment rates for women as well.

Hypotheses of Enlistment Behavior

Enlistment rates for high quality recruits have traditionally been studied with an economic model. Typically, differences in enlistment rates have been tied to economic factors such as wages and the strength of the economy, as well as recruiting resources, such as the number of recruiters. There is an extensive body of literature on these factors, as well as concern about how they might affect the composition of today's military. Does military recruiting effectively exclude the richest sector of Americans?

In order to explain the differences in enlistment rate found across the country, we hypothesize that a series of

economic, sociological, and political factors are at work. We propose to test the following set of hypotheses concerning enlistment rates:

Unemployment rate. It has long been hypothesized that an increase in the unemployment rate is correlated with an increase in enlistments, because a decline in civilian jobs should increase the attractiveness of the military (Nelson, 1986).

Family income. It was hypothesized that with the end of conscription the military would become the employer of the disadvantaged and poor (Congressional Budget Office, 1989). However, with the emphasis on recruit quality and programs such as the Montgomery GI Bill and the Army College Fund, the military may attract significant numbers of the middle class.

Age. Recruits come from the 17-21 year old segment of the population. Even within the youth population, those in their teens have much higher enlistment rates than those in their early twenties.

Education level. High quality enlistments require high school graduates. Therefore, parents with less than a high school diploma would be negatively correlated with enlistments. Conversely, we hypothesize that the more adults who have post-high school education, the lower the enlistment rate, since this would indicate a greater likelihood of attending college.

College enrollment. A direct measure of education aspirations for young people is college enrollment which corresponds with a lower likelihood of enlisting in the military. A surrogate for college enrollment is the percent of youth population residing in college dormitories.

Veteran population. One important factor for enlistments is exposure to the military. The military relies heavily on influencers as part of its recruiting process. One measure of this is veteran population, in particular, veteran population under age 65. This is the segment of the population most likely to be parents and influencers of youths in the prime market. We propose that the greater the percent of the adult population that are military veterans, the higher the enlistment rate.

Urban/Rural. The military has provided an opportunity for travel and adventure that has great appeal for many young people. We hypothesize that people from less urban areas would find such an appeal most attractive.

Political. We propose using the percent of the population voting in the 1988 presidential election as a way to identify the favorable attitudes towards military service. Such a measure is consistent with the concept of the citizen soldier that has been put forth by Moskos and others (Congressional Budget Office, 1989).

Results and Discussion

We tested our hypotheses of enlistment behavior using a linear cross-section regression. We used ordinary least squares multiple regression to find those county level demographic factors related to the percent of high quality recruits obtained in each county. By making the county the unit of observation we had 3,082 data points on which to observe both dependent and independent characteristics. We converted all variables into rates to focus on the contribution of the factor independent of county size. The base case for the models was high school graduates age 19 coming from a household owning 1 vehicle.

The first model used total prime market males for its dependent variable, since this group makes up the majority of enlistments. Table 2 provides the results of our regression for high quality male recruits. The model's 16 variables explain over 38 percent of the variation in enlistment rates that existed in the over 3,000 counties studied.

Table 2

Regression Results

MALES		FEMALES	
Variable	**Coefficient**	**Variable**	**Coefficient**
Constant	0.040 **	Constant	0.005
Dorms	-0.009 **	Dorms	-0.003 **
Veterans	0.180 **	Veterans	0.065 **
Vehicles (0)	-0.050 **	Vehicles (0)	-0.002
Vehicles (2)	-0.035 **	Vehicles (2)	-0.009 **
Vehicles (3+)	-0.020 **	Vehicles (3+)	-7×10^{-4}
Male 17	0.020 **	Female 17	0.005 **
Male 18	0.026 **	Female 18	0.007 **
Male 20	-0.029 **	Female 20	-0.001
Male 21	-0.018 **	Female 21	0.001
Non graduate	-0.018 **	Non graduate	-0.004 **
College	-0.003	College	0.004 *
Income	-4×10^{-7} **	Income	-1×10^{-7} **
Unemp Rate 90	-2×10^{-4} **	Unemp Rate 90	1×10^{-5}
Pop Density	7×10^{-4} *	Pop Density	-1×10^{-4}
Recruiter Share	-6×10^{-5}	Recruiter Share	-3×10^{-5}
Votes	0.013 **	Votes	-0.003 *

*Significant at the 0.05 level
** Significant at the 0.01 level

Both economic variables were significant. Median family income was the most important of the two variables. Unemployment had the opposite sign of what was expected, but had a small impact on enlistment rates.

The age of the prime market was a strong factor in explaining enlistments as well. The greater the proportion of the market that was 17-18, the higher the enlistment rate; the greater the share 20 or older, the lower the enlistment rate. This is consistent with other enlistment statistics which find the median age of recruits to be 19.

The "nongrad" variable was significant with the hypothesized sign. The greater the proportion of the adult population in a county without a high school diploma, the lower the enlistment rate. However, the greater the proportion of the population with some college education was not associated with lower enlistment rates, as we hypothesized.

The percent of the youth population residing in dormitories provides a reasonable estimate of college motivations. The more people living in dormitories, the fewer enlisting in the military.

Urban/rural variables appeared to add explanatory power to our model. Population density was weakly associated with higher enlistment rates. However, counties with many households without vehicles as well as those with two or more vehicles had lower enlistment rates. It appears recruiting is most successful in areas where many households have a single vehicle. Multiple vehicles may be an additional surrogate for high income.

The most powerful single factor for enlistment rates was the percent of population that was comprised of veterans under age 65. Whether measured by beta coefficient or t statistic, the variation in enlistment rate was most strongly associated with the presence of veterans. These are primarily men in the age range to be parents of the prime market. Over 75% of the veteran population was 40-65, also indicating this group largely reflects military experience prior to the all volunteer era.

The final variable was the percent of the population voting in the 1988 presidential election. As hypothesized, the greater the percent voting, the greater the enlistment rate.

Table 2 provides the results from the female enlistment rate model as well. Many of the same variables that were powerful in the male model remain significant in the female model. Veteran population and family income are again the two most important single factors related to enlistment rate. A high proportion of the market under 19 contributes to higher female enlistment rates. The percent living in dormitories and the percent of the adult population without a high school diploma were negatively related to enlistment rate. However, percent of the population with some college education was positively related to the female enlistment rate. Finally, urban/rural characteristics were not nearly as important for women as for men.

Conclusion, and Policy Implications

By focusing on geographic variation and socio-demographic factors we have identified several new themes that extend beyond the traditional economic factors. While there is general support for economic factors, in our analysis family income proved to be the most important economic variable. For both models, enlistment rates are much higher where income is lowest.

Other factors which are not typically included in other studies prove to be at least as important as economic factors, notably veteran population. We find the presence of veterans under age 65 to be perhaps the single most important factor for explaining enlistment behavior.

We believe that the veteran population under 65 is related to exposure and knowledge of the military. Over 75% of veterans in 1990 were between ages 40 and 64. This is the appropriate age range to be parents of the young men and women recruited in our study. In addition, Navy Recruiting survey research found today's recruits to be much more likely to have parents that were in the military than the general population.

The importance of this factor does not bode well for military recruiting. Veteran population under 65 has been declining and will continue to do so. In 1990 there were 20 million veterans under 65. By 2005 there will be only 13.3 million veterans under retirement age, fully one third less than 1990. From another viewpoint, the veteran population under 65 was over 10% of the population as recently as 1984. In 1990 it had declined to 8%, and by 2000 it will not be much more than 5% of the population. If the geographic enlistment pattern holds true over time, we would expect enlistment rates to decline substantially in the future.

While the concentration of veterans within a county was the strongest indicator of success in finding enlistments, changes within the veteran population will diminish this important source of recruiting support. Downsizing of the military changes the veteran population by adding people who have negative views toward the military because their career was ended against their will. In addition, the most positive segment of the veteran population, World War II veterans, are aging and becoming much smaller. This is increasing the portion of veterans from the Vietnam War which are more negative toward the military, and who are parents of the young people who are being sought out by recruiters.

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